

USSR/Cultivated Plants - Fodders.

M-4

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29864

Author : Aleksanyan, Sh.V., Isichko, M.P., Belaya, O.P.

Inst : The "Askaniya-Nova" Institute, The All-Union Scientific Research Institute for Corn, The Institute for Genetics and Selection of the Ukrainian Academy of Sciences.

Title : Carotene and Prussic Acid Accumulation in Sorghum and Sudan Grass Hybrids and Initial Forms.

Orig Pub : Vestn. s.-kh. nauki, 1957, No 6, 113-118 (resume in Eng. and German)

Abstract : A study was made at the plots of the Experimental Field of the "Askaniya-Nova" Institute of the chemical composition of the sorghum and sudan grass hybrids (variety 19-58, developed by the All-Union Scientific Research Institute for Corn, and No 5, developed by the Institute for

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ALEKSANYAN, Sh.V., kand.biolog.nauk; ISICHKO, M.P., aspirant;  
LOGVINOVA, R.A., mladshiy nauchnyy sotrudnik

Comparative evaluation of Sorgo-Sudan grass hybrids and their parental  
plants on the basis of chemical composition and hydrocyanic acid  
content. Trudy "Ask.-Nov." 8:251-262 '60. (MIRA 14:4)  
(Sorghum) (Sudan grass)

VAYNBERG, G.D., inzh.; KRICHEVSKAYA, Ye.I., kand. tekhn. nauk;  
MAZALOV, A.N., inzh.; ROZENFEL'D, A.G., inzh.; POLOMIN,  
A.I., doktor tekhn. nauk; TESLER, P.A., kand. tekhn. nauk;  
SHOLOKHOV, V.G., arkhitekt.; RUBANENKO, B.R., glav. red.;  
ROZANOV, N.P., zam. glav. red.; ONUFRIYEV, I.A., red.;  
YUDIN, Ye.Ya., red.; NASONOV, V.N., red.; ISIDOROV, V.V.,  
red.; MAKARICHEV, V.V., red.; POLUBNEVA, V.I., inzh., red.

[Improving the durability of industrial built-up roofs]  
Voprosy povysheniia dolgovechnosti industrial'nykh sovme-  
shchennykh krysh. Moskva, Gosstroizdat, 1962. 43 p.

(MIRA 17:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-  
issledovatel'skiy institut organizatsii, mekhanizatsii i  
tekhnicheskoy pomoshchi stroitel'stvu. 2. Tsentral'nyy  
nauchno-issledovatel'skiy i proyektno-eksperimental'nyy  
institut industrial'nykh, zhilykh i massovykh kul'turno-  
bytovykh zdaniy Akademii stroitel'stva i arkhitektury SSSR  
(for Vaynberg, Krichevskaya, Mazalov, Rozenfel'd, Folomin).
3. Nauchno-issledovatel'skiy institut stroitel'noy fiziki  
Akademii stroitel'stva i arkhitektury SSSR (for Sholokhov).
4. Nauchno-issledovatel'skiy institut betona i zhelezob-  
etona Akademii stroitel'stva i arkhitektury SSSR, Perovo  
(for Tesler).

MOROZOV, N.V., kand. tekhn. nauk; MKRTUMYAN, A.K., kand. tekhn. nauk; ANTIPOV, T.P., arkh.; KOCHESHKOV, V.G., inzh.; LISAGOR, I.A., inzh.; TSAPLEV, N.N., inzh.; IVASHKOVA, V.K., kand. tekhn. nauk; SHIKUNOV, I.Ya., inzh.; FILIN, Yu.D., inzh.; MOSTAKOV, V.I.; BURLACHENKO, P.Ye., kand. khim. nauk[deceased]; PANKRATOV, V.F., inzh.; RUBANENKO, B.R., glav. red.; ROZANOV, N.P., zam. glav. red.; ONUFRIYEV, I.A., red.; YUDIN, Ye.Ya., red.; NASONOV, V.N., red.; ISIDOROV, V.V., red.; MAKARICHEV, V.V., red.; POLUBNEVA, V.I., red.

[Ways of improving design details for the seams of exterior wall slabs] Puti uluchsheniia konstruktivnykh reshenii stykov panelei naruzhnykh stan. Moskva, TSentr. biuro tekhn. informatsii i nauchno-issl. in-ta organizatsii, mekhanizatsii i tekhn. pomoshchi stroit., 1962. 78 p.

(MIRA 16:8)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-eksperimental'nyy institut industrial'nykh shilykh i mas-sovykh kul'turno-bytovykh adaniy (for TSaplev).
2. Nauchno-issledovatel'skiy institut betona i shelesobetona Akademii stroitel'stva i arkhitektury SSSR, Perovo (for Mostakov).
3. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR (for Pankratov).

(Walla)

NIKOL'SKIY, V.N., kand. tekhn. nauk; SPIVAK, N.Ya., kand. tekhn. nauk; BAULIN, D.K., inzh.; BUADZE, V.Sh., inzh.; KREYTAN, V.G., kand. tekhn. nauk; PERMYAKOV, S.I., kand. tekhn. nauk; USOV, A.L., inzh.; KOSHKIN, V.G., kand. tekhn. nauk; MARAVIN, B.L., inzh.; ERENBURG, A.I., inzh.; KOCHESHKOV, V.G., inzh.; RUBANENKO, B.R., glav. red.; ROZANOV, N.P., zam. glav. red.; ONUFRIYEV, I.A., red.; YUDIN, Ye.Ya., red.; NASONOV, V.N., red.; ISIDOROV, V.V., red.; MAKARICHEV, V.V., red.; FINKINSHTYIN, B.A., inzh. red.;

[Prefabricated floor and ceiling structures] Poly i perekrytiia industrial'noi konstruksii. Moskva, Gosstroizdat, 1963. 71 p. (MIRA 16:12).

1. Akademiya stroitel'stva i arkhitektury SSSR. Tsentral'nyy nauchno-issledovatel'skiy i eksperimental'no-proyektnyy institut industrial'nykh zhilykh i massovykh kul'turno-bogatykh zdaniy. 2. Nauchno-issledovatel'skiy institut stroitel'noy fiziki i ograydayushchikh konstruksii (for Nikol'skiy, Usov). 3. Tsentral'nyy nauchno-issledovatel'skiy i eksperimental'no-proyektnyy institut industrial'nykh zhilykh i massovykh kul'turno-bogatykh zdaniy (for Buadze, Baulin, Spivak, Kreytan, Kocheshkov). 4. Vsesoyuznyy nauchno-issledovatel'skiy institut novykh stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR (for Erenburg).

(Floors) (Ceilings)

ISIDOROV, V.V.; POPOV, N.A., doktor tekhn. nauk, zasluzhennyy deyatel'  
nauki i tekhniki; ELINZON, M.P., kand. tekhn. nauk

Problems of producing artificial aggregates for concrete. Stroi.  
mat. 9 no.6:1-3 Ja '63. (MIRA 17:8)

1. Zamestitel' direktora po nauchnoy rabote Vsesoyuznogo  
nauchno-issledovatel'skogo instituta novykh stroitel'nykh  
materialov (for Isidorov). 2. Deystvitel'nyy chlen Akademii  
stroitel'stva i arkhitektury SSSR (for Popov). 3. Rukovoditel'  
laboratorii legkikh zapolniteley Vsesoyuznogo nauchno-issledovatel'skogo  
instituta novykh stroitel'nykh materialov (for  
Elinzon).

ISIDOROV, V.

Precast elements made of silicate concrete. Na stroi. Ros. 3 no.3:  
19-21 Apr '62. (MIRA 16:2)

1. Zamestitel' direktora po nauchnoy rabote Instituta sovnykh  
stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR.  
(Sand-lime products)

ISIDOROV, V.V.; PAPARIGOPULO, S.V.

Producing new materials and working out progressive technological solutions. Stroi.mat. 6 no.1:27-28 Ja '60.  
(MIRA 13:5)

1. Zamestitel' direktora Vsesoyuznogo nauchno-issledovatel'skogo instituta novykh stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR (for Isidorov). 2. Uchenyy sekretar' Vsesoyuznogo nauchno-issledovatel'skogo instituta novykh stroitel'nykh materialov Akademii stroitel'stva i arkhitektury SSSR (for Paparigopulo).  
(Building materials)



ISIDOROV, V.V.; ELINZON, M.P.

Processed lightweight porous aggregates. Izv ASIA no.1:85-89 '60.

(MIRA 13:9)

(Aggregates (Building materials))

MONFRED, Yu.B., kand. tekhn. nauk, red.; RUBANENKO, B.R., glav.  
red.; ROZANOV, N.P., zam. glav. red.; ONUFRIYEV, I.A.,  
red.; YUDIN, Ye.Ya., red.; NASONOV, V.N., red.; ~~ISIDOROV~~  
V.V., red.; MAKARICHEV, V.V., red.; POLUBNEVA, V.I., inzh.  
red.

[Improving the technology of building large-panel apartment  
houses] Sovershenstvovanie tekhnologii krupnopanel'nogo domo-  
stroeniia. Moskva, TSentr. biuro tekhn. informatsii in-ta  
organizatsii, mekhanizatsii i tekhn. pomoshchi stroit., 1962.  
51 p. (MIRA 16:8)

(Apartment houses)

L 13600-66 EWT(m)

ACC NR: AP6001016

SOURCE CODE: UR/0286/65/000/022/0101/0101

AUTHORS: Isidorov, V. V.; Akunov, V. I.; Dubinskiy, M. G.; Zavadskiy, G. V.;  
Inshakov, Yu. T.; Lur'ye, M. Yu.; Myasin, N. I.; Nosenko, N. Ye.; Plovako, A. N.;  
Rybin, V. R.; Sidochenko, I. M.; Sominskiy, D. S.; Titov, P. P.; Khalov, G. G.;  
Shchevel', A. S.; Zavgorodniy, N. S.

ORG: none

TITLE: A reactor for combined pulverizing and burning of a material, such as cement,  
in a high temperature gas stream. Class 80, No. 115469

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 101

TOPIC TAGS: cement, thermal reactor

ABSTRACT: This Author Certificate presents a reactor for combined pulverizing and  
burning of a material, such as cement, in a high temperature gas stream. To provide  
automatic regulation of the burning and calcification time for the material in the  
reactor, the latter is made in the shape of a flat, lenticular chamber. Nozzles  
of the combustion chambers are built into the peripheral circle of the lenticular  
chamber and at an angle to its radii. An opening in the center of the chamber bottom  
is used to discharge the finished burned product.

SUB CODE: 18,13/

SUBM DATE: 24May61

Card 1/1

ISIKOV, V.N., assistant; KRUZIN, G.D., inzh.

Studying the strength of weld joints of steel pipes. Nauch.dokl.  
vys.shkoly; stroi. no.4:133-139 '58. (MIRA 12:7)

1. Rekomendovana kafedroy stroitel'noy mekhaniki Khar'kovskogo insti-  
tuta inzhenerov zheleznodorozhnogo transporta imeni S.M. Kirova.  
(Pipe, Steel) (Steel--Welding)

ISIKOV, V.N.; KRUZIN, G.D.

Studying the fatigue strength of welded seams in a Diesel engine  
block. Zav. lab. 30 no.9:1132 '64. (MIRA 18:3)

1. Khar'kovskiy institut inzhenerov zheleznodorozhnogo  
transporta imeni Kirova.

RYLEYEV, G.S.; KRYUGER, P.K.; KAZAKOV, V.N.; VIL'KEVICH, B.I. Pri-  
nimal uchastiye BELEN'KIY, M.N.; FEDOTOV, I.I., kand.  
tekhn. nauk, retsenzent; LUGININ, N.G., kand. tekhn. nauk,  
retsenzent; CHEBYKIN, V.N., kand. tekhn. nauk, retsenzent  
[deceased]; ONISHCHENKO, I.T., kand. tekhn. nauk,  
retsenzent; TELICHKO, V.G., inzh., retsenzent; ISIKOV,  
Ye.N., inzh., retsenzent; ROZHDESTVENSKIY, A.S., inzh.,  
retsenzent; MEDVEDEVA, M.A., tekhn. red.

[Management and operation of diesel locomotives] Teplovoz-  
noe khoziaistvo. Izd.2., perer. i dop. [By] G.S.Ryleev i  
dr. Moskva, Transzheldorizdat, 1963. 290 p.

(MIRA 17:3)

ISIMBEKOV, Zh.M.

Composition of blood-sucking mosquitoes in Alma-Ata by species.

Med. paraz. i paraz. bol. 34 no.1:111-112 Ja-F '65.

(MIRA 18:8)

1. Institut zoologii AN Kazakhskoy SSR.

ISIMBEKOV, Zh.M.

Fauna and seasonal variation of the abundance of bloodsucking  
mosquitoes in the Ili River basin. Med. parazit. i parazit. bol.  
34 no. 5:521-525 S-O '65 (MIRA 19:1)

1. Institut zoologii AN KazSSR. Submitted October 31, 1963.



ADO, A. D.; ISIMOVA, L. M.; POLNER, A. A.

Allergic alteration of smooth muscle organs. Cas. lek. cesk. 101  
no.24/25:740-747 22 Je '62.

1. Ustav pro patologickou fyziologii II medicinskeho ustavu v Moskvě,  
prednosta akademik A. D. Ado.

(ALLERGY experimental) (MUSCLES physiol)  
(POTASSIUM metab)

SOKOLOV, D.V.; LITVINENKO, G.S.; ISIN, Z.I.

Laboratory production of vinylacetylene from dimethylvinyl-  
lethynylcarbinol. Izv. AN Kazakh. SSR. Ser. khim. no. 2:68-71  
'59. (MIRA 12:8)

(Acetylene)

The image shows a microfiche card containing a document page. At the top left, the name "TSINSKIY, A-D" is handwritten. To its right, the words "PROCESSES AND PROPERTIES INDEX" are printed. In the upper right corner of the document area, the number "23" is handwritten. The main body of the document features a title in Russian: "Температурная зависимость трения в случае стали по сравнению с металлами, имеющими низкие температуры плавления". Below the title, it says "(In Russian.) A. D. Tsinskii, Zhurnal Tekhnicheskoi Fiziki (Journal of Technical Physics), v. 18, Sept. 1948, p. 1189-1193." This is followed by an English translation: "The above was investigated for steel vs. paraffin or Wood's alloy. It was found that, in the case of a great difference in the melting points of the two materials involved, the coefficient of friction decreases considerably with increased temperature." At the bottom of the card, there is a classification code "ASB-3LA METALLURGICAL LITERATURE CLASSIFICATION" and several other alphanumeric codes and numbers arranged in rows.

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ISIRIANYAN, A. A., Master Chem Sci—(USSR) "The heat of adsorption and capillary  
condensation of hydrocarbons on silica." Moscow, 1957, 14 pp. (Moscow State  
University im. Lomonosov<sup>M.V.</sup>), 100 copies.  
(KL, No 41, 1957, p.106)

*Isirikyan, A. A.*

62-11-4/29

AUTHORS: Avgul', N. N., Isirikyan, A. A.,  
Kiselev, A. V., Lygina, I. A., Poshkus, D. P.

TITLE: Adsorption Equilibria and the Energy of Adsorption  
Powers (Adsorbtsionnyye ravnovesiya i energiya  
adsorbtsionnykh sil).

PERIODICAL: Izvestiya AN SSSR, Otdel. Khim. Nauk, 1957, Nr 11,  
pp. 1314-1327 (USSR)

ABSTRACT: Here the theoretical and experimental investigation of the  
adsorption powers in physical adsorption, mainly of complicated  
non-polar molecules with adsorbents of an atomic and ionic  
lattice, is brought. The results of the theoretical  
computation are compared with the measurements of the dif-  
ferential heats of the adsorption. Here a method for the  
computation of the adsorption energy of non-polar molecules  
with regard to three terms in the potential of the dispersion  
powers with constants, which are computed by means of  
polarizability and magnetization-coefficients, was worked  
out. With it the induction potential by the average  
polarizability of the adsorbed substance and the average  
electrostatic field of the adsorbent was taken into  
consideration. Furthermore the push-off potential with a

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ISIRIKYAN, A.A.; KISELEV, A.V.

Heat of adsorption of  $n$ -hexane and  $n$ -heptane vapors on silica  
gels [with summary in English]. Zhur.fiz.khim. 31 no.9:2127-2137  
S '57. (MIRA 11:1)

1. Moskovskiy Gosudarstvennyy universitet im. M.V. Lomonosova.  
(Heat of adsorption) (Hexane) (Heptane)

AUTHOR

ISIRIKYAN, A.A. and KISELEV, A.V.

20-2-41/62

TITLE

Heat of Benzene and Hexane vapor Adsorption on Calcined and Hydrated Silica.

(Teplota adsorbitsii parov benzola i geksana na prokalennom i gidratirovannom kremnezemakh.- Russian)

PERIODICAL

Doklady Akademii Nauk SSSR 1957, Vol 115, Nr 2, pp 343-346 (U.S.S.R.)

ABSTRACT

It was proved by a number of papers that changes of the chemical composition of the silicagel surface due to surface reactions, such as dehydration, etherification and haloidation, sharply alter its properties of adsorption toward the adsorbed substances. This concerns substances which are not only absorbed due to general interactions of dispersion, but also due to additional closer interactions, e.g. of an acid-basic type. The thermal dehydration of silicagel leads to a reduction of the adsorption of methanol and benzene vapors in the initial part of the isotherm. The vapor adsorption of a saturated hydrocarbon (n-heptane) is, however, not changed by the dehydration of silicagel at 200-400°C. In the present paper the influence of the degree of dehydration of the silicagel surface on the values of

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20-2-41/62

Heat of Benzene and Hexane Vapor Adsorption on Calcined and Hydrated Silica.

values of differential adsorption heats of the present hydrocarbons and their relation to surface hydration show that the fundamental interactions with the silicagel surface represent the non-polar ones of Van der Waal. Their energy, however, is smaller than in the case of adsorption on graphite due to a scarcer arrangement of centers of forces in the quartz lattice. The absence of a sharp influence of the increase in hydroxyl concentration on the silica surface upon the adsorption heat of hexane indicates a low energy content in the usual interactions of induction. In the case of benzene adsorption the formation of  $\pi$ -complexes with silicic acid on the hydrated surface only increases the total heat of adsorption of benzene  $Q_s$  by 10 %, but the pure adsorption heat  $Q_s - L$  is strongly increased by it (close to  $\theta = 0,5$  it is about doubled). Thereby the form of the isotherm of benzene vapor adsorption is highly changed.

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Heat of Benzene and Hexane Vapor Adsorption on Calcined and Hydrated Silica.

Ill. 4 distinctly shows this. Here the adsorption heat as well as the absolute value of adsorption itself are expressed for hexane and benzene as a function of the relative vapor pressure  $p/p_g$ .

(4 Illustrations, 19 Slavic references.)

ASSOCIATION:

Moscow State University im. M. V. Lomonosov  
(Moskovskiy gosudarstvennyy universitet im. M.V.  
Lomonosova.- Russian)

PRESENTED BY:

M.M. Dubinin, Member of the Academy, Dec. 25, 1956

SUBMITTED:

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AVAILABLE:

Library of Congress.

CARD 4/4



AUTHORS: Isirikyan, A. A., Kiselev, A. V. 76-32-3-28/43

TITLE: The Heat of Adsorption of Benzene Vapors on Silica Gels  
(Teplota adsorbtsii parov benzola na silikagelyakh)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 3,  
pp. 679-688 (USSR)

ABSTRACT: The present work investigates the dependence of the heat of adsorption on the filling up of the surface and volume of pores of silica gels of different structure with hydrated surfaces. In the final domain of capillary condensation, sharp maxima of the heat of adsorption of the benzene vapors were observed and thoroughly examined. Similar maxima were found in the adsorption of n-alkanes. From the data of the experimental part, it follows that a coarse-pored silica gel KCK-2 (specific surface  $s = 320 \text{ m}^2/\text{g}$ ) and a fine-pored nc.8 (specific surface  $s = 520 \text{ m}^2/\text{g}$ ) were used. As is to be seen from the given diagrams, the isothermal line of adsorption for coarse-pored silica gel is S-shaped and shows a capillary-condensation hysteresis, whereas in fine-pored

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The Heat of Adsorption of Benzene Vapors on  
Silica Gels

76-32-3-28/43

silica gel the hysteresis is less, but sharper. In investigations of the heat of adsorption it was noticed that at the beginning of filling up the surface, an abrupt heat drop takes place which later continues to fall linearly. This is in alkane adsorption explained by the unevenness of the surface. A comparison of the heats of adsorption of the two silica gel samples shows that that of fine-pored silica gel is considerably higher. The increased heat of adsorption of benzene on a silica gel with hydrated surface is traced back to a formation of  $\pi$ -complexes with the hydroxyl of silicic acid. Thus A. N. Terenin in benzene adsorption on porous glass showed that a decrease in the hydroxyl groups takes place. Adsorption experiments in comparison with graphite were performed and the obtained differences were explained. The heats of wetting were calculated by the integration of the curves of the pure heats of adsorption. The maximum which the curve of the heat of adsorption and desorption shows in the capillary

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The Heat of Adsorption of Benzene Vapors on  
Silica Gels

76-32-3-28/43

condensation is explained by a compression and expansion respectively of the liquid which fills up the pores of the silica gel, in which connection samples with pores of equal size were investigated. There are 8 figures, 1 table, and 23 references, 22 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: December 29, 1956

Card 3/3

AUTHORS: Isirikyan, A. A., Kiselev, A. V. 20-119-4-28/60

TITLE: The Adsorption Heat of the Vapors of Benzene and Hexane on Quartz (Teplota adsorptsii parov benzola i gekšana na kvartse)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 119, Nr 4, pp. 731 - 734 (USSR)

ABSTRACT: In the course of this work an adsorption-colorimetric device is used for measuring the isothermal lines of adsorption and the differential adsorption heats of the vapors of benzene and H-hexane on a quartz powder up to saturation. The quartz powder had a specific surface of  $6.0 \text{ m}^2/\text{g}$ . A diagram shows the here obtained isothermal lines of the absolute values  $\alpha$  (per surface unit) for the vapors of hexane and benzene. For benzene the isothermal line was plotted to full saturation. The isothermal lines are reversible up to relative pressures of  $p/p_s \sim 0.9$  and have the S-shape which is typical of the adsorption on non-porous adsorbents. In the case of higher values of  $p/p_s$  a distinctly reproducible hysteresis was found which is connected with the capillary condensation in the interspaces between the particles of the quartz powder. Between the quartz particles in

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The Adsorption Heat of the Vapors of Benzene and  
Hexane on Quartz

20-119-4-28/60

a condensed powder there were interspaces with mostly 1000 to 7000 Å. With an increase of  $p/p_s$  from the beginning of hysteresis to saturation about 70% of the surface disappear. A further diagram, by way of comparison, illustrates the isothermal lines of the adsorption of the same vapors on a homogeneous silica gel KSK-2. The desorption branch begins to decline steeply near  $p/p_s = 0.7$ .

In this domain the adsorption on quartz is not yet rendered complicated by any capillary condensation in the interspaces between the particles. In the initial domain of monomolecular filling-up adsorption on quartz is greater than on silica gel KSK-2, which is connected with the lower skeleton density of this silica gel. Further details are given. A further diagram shows the dependence of the heat of adsorption of benzene vapors upon the absolute value  $\alpha$  of the adsorption on quartz. After filling-off of the first two layers adsorption heat exceeds condensation heat only by 3%, and after the adsorption of 4 layers by 1%. Further reduction of the heat of adsorption takes place very slowly. The

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SOV/76-33-2-23/45

5(4)

AUTHORS:

Isirikyan, A. A., Kiselev, A. V., Frolov, B. A.

TITLE:

The Heat of Adsorption of Normal Alkanes on Silica Gels  
(Teplota adsorbtsii normal'nykh alkanov na silikagele)

PERIODICAL:

Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 2,  
pp 389 - 394 (USSR)

ABSTRACT:

In continuation of the work of previous papers (Refs 10, 11, 16 - 19) the heat of adsorption ( $\Delta H$ ) of n-pentane (I) and n-octane (II) on coarsely porous silica gels was measured. An adsorption calorimetric apparatus was used which is a simplified variant (Ref 20) constructed in cooperation with G. G. Muttik and which will be described separately. As in the other papers (Refs 10, 11, 13, 16) a homogeneously porous silica gel KSK-2 with a specific surface of 320 m<sup>2</sup>/g and a pore diameter of about 100 Å was used. A comparison of the obtained absolute adsorption isotherms (Fig 1) for (I) and (II) with those for n-hexane and n-heptane on the same silica gel (Ref 10) shows that the  $\Delta H$  from pentane to octane increases and it is not possible to apply the BET equation. Since the constant of the induction interaction with the

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The Heat of Adsorption of Normal Alkanes on Silica Gels SOV/76-33-2-23/45

electrostatic field is proportional to the polarizability of the n-alkanes the general adsorption energy on the silica gel also increases linearly with the number of carbon atoms in the molecule. The linear functions  $Q_a^0$  of n (n = number of carbon atoms) (Fig 3) and the standard differential (AH) of the n-alkanes were derived for adsorption on silica gels, carbon black (Refs 4,5), MgO (Ref 7), and water (Ref 27). The values for any particular n-alkane can be calculated from the following equations:

Adsorption on carbon black  $Q_a^0 = 0.7 + 1.2 n$  kcal/mol (n = number of carbons)

" " MgO  $Q_a^0 = 0.6 + 1.5 n$  kcal/mol "

" " silica gel KSK-2  $Q_a^0 = 1.0 + 1.3 n$  kcal/mol "

Heats of condensation  $L = 0.7 + 1.2 n$  kcal/mol

Adsorption on water  $Q_{a \rightarrow o} = 1.7 + 0.7 n$  kcal/mol. There are

3 figures, 1 table, and 27 references, 24 of which are Soviet. Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

July 17, 1957

ASSOCIATION:

SUBMITTED:

Card 2/2

S/076/60/034/007/041/042/XX  
B004/B068

AUTHOR: Isirikyan, A. A.

TITLE: Self-compression of Carbon Black and Apparent Sorption Hysteresis

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 7, pp. 1652 - 1653

TEXT: Adsorption hysteresis was observed at low vapor pressure and compression of the sample during sorption with a decrease of the sorption volume  $v_s$  (volume of the pores) from 0.8 to 0.5 cm<sup>3</sup>/g when the differential adsorption heat of n-hexane vapor on carbon black previously heated to 3000°C and having a specific surface (determined by nitrogen adsorption) equal to 29.1 m<sup>2</sup>/g was investigated. Since chemical interaction or swelling in the system graphite - hexane is out of question, capillary effects in pure form appear here, and the self-compression of carbon black is clearly due to mechanical stress on the surface of the liquid condensed between the carbon-black particles. The central part of

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Self-compression of Carbon Black and  
Apparent Sorption Hysteresis

S/076/60/034/007/041/042/XX  
B004/B068

the accompanying figure shows the complete adsorption isotherm, while the initial and final sections are shown on the left and right side, respectively. The first series of experiments yielded a maximum sorption volume of  $0.8 \text{ cm}^3/\text{g}$ , and a broad hysteresis loop  $p/p_s = 0.05$ . The

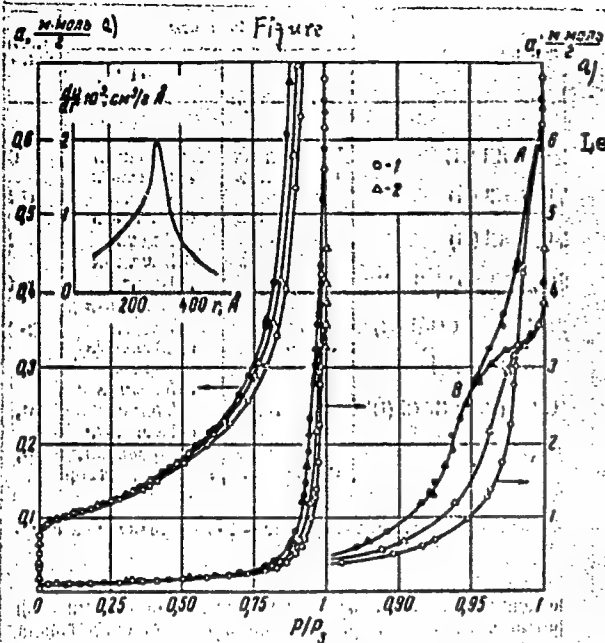
second series of experiments carried out after the carbon black had been heated to  $400^\circ\text{C}$  in a high vacuum, yielded an isotherm of different shape. The sorption volume decreased to  $0.5 \text{ cm}^3/\text{g}$ ; the hysteresis loop was narrowed down in the range of capillary condensation, and vanished entirely at low vapor pressure. The results of the second series were reproducible. From the values determined for  $v_s$ , the coordination number  $n$  was calculated which increased due to self-compression:

$\Delta n = 5.5 - 4.3 = 1.2$ . This self-compression effect explains the increase in density of some other disperse powders when granulated in wet state. There are 1 figure and 4 references: 3 Soviet and 1 US.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova  
(Moscow State University imeni M.V. Lomonosov)

SUBMITTED: December 30, 1959

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S/076/60/034/007/041/042/XX  
B004/B068

Legend to the figure: a) mmole/g

Figure

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S/076/60/034/012/020/027  
B020/B067

**AUTHORS:** Isirikyan, A. A. and Kiselev, A. V.  
**TITLE:** Adsorption Heats of Hydrocarbons on Magnesium Oxide  
**PERIODICAL:** Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 12,  
pp. 2817-2824

**TEXT:** In this paper, the complete values of the adsorption heats of n-hexane and benzene on magnesium oxide are given, which in an earlier paper (Ref. 2) had been used for a comparison with the theoretically calculated values. The measurement results of the isothermal lines and the differential heats of adsorption of the vapors on benzene, n-hexane, and n-octane on MgO are evaluated. The calorimetric determination of the heats of adsorption was made in an apparatus described in Refs. 13 and 14. The results are shown in Figs. 1-3. The adsorption of n-hexane and benzene vapors was studied until the formation of approximately two adsorption layers, whereas the adsorption of n-octane vapors was studied almost until saturation. This allowed the determination of the maximum desorption temperature near the saturation and the calculation of the distribution of

Card 1/3

Adsorption Heats of Hydrocarbons on  
Magnesium OxideS/076/60/034/012/020/027  
B020/B067

the pore volumes from the desorption branch of the isotherm. When determining the absolute values of adsorption per surface unit, the specific surface  $s$  must be known which, in turn, is determined from the surface  $\omega_0$  that is occupied by the molecule adsorbed in the monomolecular layer. By using the equations of Langmuir, BET or other varieties the isothermal lines of adsorption can be evaluated to determine the capacity of the monolayer  $a_m$  or the energetic characteristics of the system investigated. The values thus obtained are, however, often contradictory. The constants of the equations BET and of Hüttig for the isothermal lines of adsorption of the benzene, n-hexane, and n-octane vapors on MgO are listed in Table 1. Table 2 gives the values  $\omega_0$  for hydrocarbons, which were calculated by various methods. Fig. 4 shows the heats of adsorption of the benzene, n-hexane and n-octane vapors on MgO as depending on the surface filling. Fig. 5 shows the differential entropies of adsorption for the systems investigated (standard state - normal liquid), and Fig. 6 gives a comparison of the isothermal lines of the dependence of the adsorption heats and the adsorption on the relative vapor pressure of octane on coarse-pored MgO. There are 6 figures, 2 tables, and 27 references: 20 Soviet, 3 US, 3 British, and 3 German.

Card 2/3

Adsorption Heats of Hydrocarbons on  
Magnesium Oxide

S/076/60/034/012/020/027  
B020/B067

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova,  
Khimicheskiy fakul'tet (Moscow State University imeni  
M. V. Lomonosov, Division of Chemistry)

SUBMITTED: April 24, 1959

Card 3/3



S/069/61/023/001/005/009  
B124/B204

AUTHORS: Isirikyan, A. A. and Kiselev, A. V.

TITLE: Effect of compression of carbon black on the isothermal line and heat of adsorption of n-hexane

PERIODICAL: Kolloidnyy zhurnal, v. 23, no. 1, 1961, 67-75

TEXT: The aim of the present paper is an explanation of the nature of inhomogeneities arising in carbon black compression, as well as of their effect upon the isothermal line and heat of adsorption of vaporous hydrocarbons. Сферон-6 (sferon-6) canal lampblack annealed in a helium atmosphere at 2800°, as used in the work under Ref. 17, was used as an adsorbent. This sample was compressed in a mechanical press at pressures of up to 4 and up to 10 t/cm<sup>2</sup>. The resulting isothermal lines of adsorption are illustrated in Figs. 1 and 2. Table 1 shows the specific surfaces as determined from the isothermal line of n-hexane adsorption by the BET method; the specific surface determined by the authors agrees well with published values. The limiting volume  $V_s$  of sorption (bulk volume of the pores) decreases rapidly already at a relatively soft compression

Card 1/10

Effect of compression ...

S/069/61/023/001/005/009 - ✓

B024/B204

(4 t/cm<sup>2</sup>), whereas it varies only slightly with further compression up to 10 t/cm<sup>2</sup>. The coordination number  $n$  displays the same character (Table 1). The absolute isothermal lines of adsorption and the curves of adsorption heat obtained for the range of monomolecular filling and transition to polymolecular filling are shown in Fig. 2 (below) and Fig. 3. Table 2 presents the standard differential thermodynamic characteristics of n-hexane adsorption corresponding to a 50% filling of the monolayer  $\Theta=0.5$  upon sferon-6 carbon black (annealed at 1700°C in a hydrogen stream) and upon the carbon black samples of the authors. At 1700°C, channel was graphitized only to a slight extent since the adsorption energy of n-hexane during a heating of the carbon black to 2800°C rose by 0.25 kcal/mole, whereas the adsorption entropy in the same case decreased by 0.68 units of entropy. For comparison, Fig. 3 shows also the curve of the differential adsorption heat of n-hexane on P-33 (R-33) carbon black heated to only 1000°C. The arrows indicate the direction of the curve of differential adsorption heat upon non-porous carbon black with a homogeneous surface in the case of compression. Fig. 4 shows the heat difference in capillary condensation of n-hexane upon compressed and uncompressed carbon black

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S/069/61/023/001/005/009  
B124/B204

Effect of compression ...

samples. The values of the wetting energy  $\Delta A$ , heat of wetting  $Q_1$ , entropy of wetting  $\Delta S_1$ , and the mean molar entropy variation  $\Delta S_m$  during adsorption of the monolayer are compiled in Table 3. Table 4 shows that the fluctuations of the quantities  $S'_Q$ , when the value of  $a_n$  (adsorption value) is chosen between 0.4 and 0.6 mmole/g, are smaller than the corresponding variations of  $s'_A$ . For this reason, results from heat measurement are more reliable. The authors proved that the maxima of the heat of capillary condensation at the end of sorption depend on the geometrical structure of the adsorbent only, and that they occur at the end of capillary condensation when porosity is sufficiently uniform. There are 4 figures, 4 tables, and 18 references: 13 Soviet-bloc and 5 non-Soviet-bloc. ✓

ASSOCIATION: Moskovskiy universitet im. Lomonosova, Khimicheskiy fakul'tet, Laboratoriya adsorptsii (Moscow University imeni Lomonosov, Division of Chemistry, Laboratory of Adsorption)

SUBMITTED: October 12, 1959

Card 3/10

ISIRIKYAN, A.A.; KISKLEV, A.V.

Absolute adsorption isotherms for nitrogen, benzene, and  
n-hexane vapors and the heats of adsorption of benzene and  
n-hexane on graphitized carbon blacks. Part 1. Zhur. fiz.  
khim. 36 no.6:1164-1172 Je'62 (MIRA 17:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova  
i Institut fizicheskoy khimii AN SSSR.

ISIRIKYAN, A.A.; KISELEV, A.V.

Adsorption isotherms of nitrogen, benzene, and n.hexane vapors and the heats of adsorption of benzene and n.hexane on graphitized carbon black. Part 2: Adsorption on graphitized channel blacks. Zhur.fiz.khim. 36 no.8:1723-1730 Ag '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskiy fakul'tet i Institut fizicheskoy khimii AN SSSR.  
(Adsorption) (Carbon black)

L 18313-63

EPR/EPF(c)/EWT(l)/EWP(q)/EWT(m)/BDS

AFPTC/ASD

Ps-lh/

Pr-l RM/WW/JD/WH/JW/K

S/0076/63/037/008/1776/1785

ACCESSION NR: AP3004974

76  
75

AUTHORS: Isirikyan, A. A.; Kiselev, A. V.

TITLE: Adsorption isotherms of vapors of nitrogen, benzene, and N-hexane and heat of adsorption of benzene and N-hexane on graphitized carbon blacks. 3. Thermodynamic characteristics of adsorption equilibria

SOURCE: Zhurnal fiz. khimii, v. 37, no. 8, 1963, 1776-1785.

TOPIC TAGS: adsorption isotherm, nitrogen, benzene, N-hexane, heat of adsorption, graphitized carbon black, adsorption equilibria

ABSTRACT: The thermodynamic properties of graphite-benzene and graphite-N-hexane adsorption systems are compared. Adsorption isotherms, differential heats and entropies of adsorption of vapors of N-hexane and benzene are also compared in a constant graphite grain. These properties depend only upon the nature of the adsorbate-adsorbent system and are their physical-chemical characteristics. They are practically free from the effect of adsorbent heterogeneity. The sharp difference of these characteristics for N-hexane and benzene is discussed. Isotherms of adsorption of nitrogen vapors at 195C, N-hexane, and benzene at 20C

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ACCESSION NR: AP3004974

in graphite are described with the aid of various approximate equations of adsorption isotherms on a similar surface, considering and not considering the adsorbate-adsorbate interaction. More complete experimental adsorption isotherms of these vapors on graphitized thermal carbon blacks with a similar surface are described by the equations for localized adsorption in the first layer, considering approximate adsorbate-adsorbate attractions. Orig. art. has: 5 figures, 2 tables, 8 equations.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
Khimicheskij fakul'tet (Moscow state university, Faculty of chemistry)

SUBMITTED: 02Feb61

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: CH, FH

NO REF SOV: 020

OTHER: 011

Card

2/2

ISIRIKYAN, A.A.; KISELEV, A.V.

Effect of the compression of carbon black on the isotherm and  
heat of adsorption of n. hexane. Koll. zhur. 23 no.1:67-75  
Ja-F '61. (MIRA 17:2)

1. Moskovskiy universitet imeni Lomonosova, Khimicheskiy fakul'tet,  
laboratoriya adsorbtsii.



ISIRIKYAN, A.A.; KISELEV, A.V.; USHAKOVA, Ye.V.

Chemical modification of the rutile pigment surface by hexanol  
and dimethyldichlorosilane. Koll.zhur. 26 no.1:45-50 Ja-F  
'64. (MIRA 17:4)

1. Moskovskiy universitet, khimicheskiy fakul'tet.

BORODINA, M.L.; YERMOLAYEVA, T.A.; ISIRIKYAN, A.A.; KISELEV, A.V.;  
USHAKOVA, Ye.V.

Adsorption properties of commercial samples of a rutile pigment  
with a modified surface. Koll. zhur. 26 no.2:156-162 Mr-Ap  
'64. (MIRA 17:4)

1. Moskovskiy universitet imeni Lomonosova, khimicheskiy  
fakul'tet.

ISKANDARYAN, Ashot Arutyunovich; BELAYA, T.P., red.

[Sampling apparatus for gases and liquids] Probootborniki  
gazov i zhidkosti. Moskva, Izd-vo "Energia," 1964. 36 p.  
(Biblioteka po avtomatike, no.98) (MIRA 17:5)

ISIRIKYAN, A.A.; KAZMENKO, I.A.; KISELEV, A.V.

Pore structure of hydrolytic titanium dioxide. Koll. zhur. 26  
no.6:675-679 N-D '64 (MIRA 18:1)

1. Khimicheskiy fakul'tet Moskovskogo universiteta.

ISIRIKYAN, A.A.; KISELEV, A.V.; USHAKOVA, Ye.V.

Adsorption of water, methanol, hexane, and benzene vapors on pigment  
rutile modified by diethyldichlorosilane. Koll. zhur. 27 no.5:690-  
696 S-O '65. (MIRA 18:10)

1. Moskovskiy universitet imeni Lomonosova, khimicheskij fakul'tet.

ISKAKOV, A.

ISKAKOV, A.

3N/5  
876.399  
.B1

Kazirgi Kazak Tili (The present Day Kazakh Language) Leksika, Fonetika, Grammatika. Zhauapty Red M. Balakayev i A. Isakov. Almaty Kazak SSR Gylm Akademiya synyn Baspasy, 1954.

562 p.

At head of title: Akademiya Nauk Kazakiskoy SSR, Alma-ATA

ISKAKOV, A.

Dissertation defended for the degree of Candidate of Philosophical Sciences  
at the Institute of Philosophy

"Ideas of Free Thought and Atheism in the Works of the First Kazakh Scientist  
and Enlightener Chokan Valikhanov."

Vestnik Akad. Nauk, No. 4, 1963, pp 119-145

ISKAKOV , K.

Iskakov, K. "The struggle for economy and accumulation above and beyond what has been planned," (Industry of the Aktyub. oblast). Bol'shevik, Kazakhstan, k948, No. 11, p. 48-52

SO: U-3850, 16 June 53, (Letopis 'Zhurnal 'nykh Statey, No. 5, 1949).



ISKAKOV, Musa; MELESHKO, K.S., red.; KOZLOV, S.V., tekhn. red.

[Corn in the basis for an increase in milk production] Kukuruza -  
osnova povysheniia molochnoi produktivnosti korov. Alma-Ata,  
Kazakhskoe gos. izd-vo, 1956. 13 p. (MIRA 11:7)

1. Upravlyayushchiy fermoy No.4 sovkhosa imeni Lenina Taldy-  
Kurganskoy oblasti. (for Isakov).  
(Corn (Maize)) (Kazakhstan--Dairying)

ISKAKOV, M. M., CAND AGR SCI, "EFFECT OF GROWING CONDI-  
TIONS <sup>upon the</sup> ~~ON~~ FORMATION OF PRODUCTIVE QUALITIES <sup>of the</sup> ~~IN~~ BROOD HERDS  
OF <sup>the</sup> ~~THE~~ KAZAKH FINE-WOOLED BREEDS <sup>4</sup> OF SHEEP." ALMA-ATA, 1960.  
(MIN OF HIGHER AND SEC SPEC ED KAZSSR, ALMA-ATA ZOOVETE-  
RINARY INST). (KL, 3-61, 225).

ISKAKOV, S.

Conservation of natural resources. Vest. AN Kazakh. SSR 17 no. 1: 92-  
93 Ja '61. (MIRA 14:1)

(Natural resources—Congresses)

L 12172-66 EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) MJW/JD

ACC NR: AP6000178

UR/0148/65/000/009/0184/0186

AUTHOR: <sup>44,55</sup> Bidulya, P. N.; <sup>44,55</sup> Iskakov, S. S.; <sup>44,55</sup> Kimov, V. S.

ORG: <sup>44,55</sup> Moscow Evening Metallurgical Institute (Moskovskiy vechernyy metallurgicheskiy institut)

TITLE: Effect of pressing parameters on the crystallization of steel castings pressed in molten state, <sup>44,55,1</sup> 6

SOURCE: IVUZ. Chernaya metallurgiya, no. 9, 1965, 184-186

TOPIC TAGS: metal pressing, molten metal, metal crystallization, die, metal casting

ABSTRACT: The development of a method of producing castings by pressing in molten state (P. N. Budulya, S. S. Iskakov, V. S. Kimov. Liteynoye proizvodstvo, 1956, no. 7) makes it possible to obtain compact castings with a good surface and minimal machining tolerances. In this connection, the authors investigated the effect of such pressing parameters as unit pressure, pressing time, die temperature, metal-pouring temperature, pressing rate, etc., on the crystallization of castings of 45 steel. The sequence of the technological cycle was as follows: Molten steel obtained by remelting in an acid induction furnace with the aid of a chamotte-graphite proportioning crucible heated to 900-1000°C, was poured into a die mounted on the bolster of a hydraulic press, and pressed. The press cross-arm moves at the rate of 20 mm/sec and

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UDC: 621.746.58

L 12172-66

ACC NR: AP6000178

picks up maximum pressure within 13 sec. After corresponding exposure under pressure, the cross-arm with the punch moves upward and the pressed casting is extracted from the die and immediately placed in a heating furnace. In this case, the required critical pressure was determined by varying the load applied from 0 to 20 kg/mm<sup>2</sup>, and was found to increase with increasing wall thickness of the billet. It was established that the rate of crystallization under pressure is 3-5 times as high as for free crystallization; this is apparently due to the increased drain of heat due to the elimination of the gap between the walls of die and casting and the increase in the number of the nuclei of crystallization owing to deep supercooling. Die and punch temperatures of up to 150°C considerably increase the solidification rate; any further heating above 200°C, however, hardly affects the required pressing time. A similar effect is produced by the pouring temperature: the limit beyond which the heating of the steel ceases to affect significantly the solidification time of the casting is heating to 80-100°C above the liquidus. Deviations from these rules lead to various kinds of defects. Further, it was established that the pouring of steel into a cold die (20 to 100°C) results in a coarse dendritic structure of the casting, whereas heating of the die to 200-250°C assures a crack-free uniformly fine-grained structure. Orig. art. has: 2 figures.

SUB CODE: 11, 13/ SUBM DATE: 20Feb65/ ORIG REF: 000/ OTH REF: 000

Card

2/2

L 19836-65 EWT(m)/EWA(d)/EAP(t)/EWP(k)/EMP(b) Pf-l MJW/JC/HW

ACCESSION NR: AP4049076

S/0143/64/000/011/0189/0194

AUTHOR: Bidulya, P.N.; Kimov, V.S.; Iskakov, S.S.

TITLE: The effect of mechanical stress on the primary crystallization and properties of steel

SOURCE: IVUZ, Chernaya metallurgiya, no. 11, 1964, 189-194

TOPIC TAGS: steel crystallization, steel mechanical property, steel casting, steel stamping, grain formation

ABSTRACT: The structural flaws formed in casting of steel 45L were studied experimentally by subjecting cylindrical samples, 240 mm in diameter and 65 mm thick, to treatment in a hydraulic piston press with four types of dies: plane, cylindrical with a 40-mm height, hemispherical, and cylindrical with a 115-mm height. There was no slippage. The mechanical pressure was held constant at 14 kg/mm<sup>2</sup>, and the samples were stamped before primary crystallization could take place. The plane-stamped samples still showed bubbles and irregular mechanical properties. The cylindrically stamped samples showed a macrostructurally and microstructurally fine, even grain and no separation of elements. The edges of the grain showed no sulfides, phosphides, or blisters. Stamped nuts showed more desirable properties than cast nuts, with equally good grain after crystallization.

and 1/2

L 19836-65

ACCESSION NR: AP4049076

A rapid heat exchange of cooling metal, nearly ideal contact between stamp and sample, and keeping gases in solution with the solid (which necessitates low working pressures of 1.5-19 kg/mm<sup>2</sup>) are among the requirements for maintaining optimal grain formation. If the process requires pressures of 18-20 kg/mm<sup>2</sup>, the cylindrical presses require additional measures. The dynamic mechanical properties of stamped metal are investigated. The authors are: Shingluz, A. A. Reppa and V. N. Zlochev. Also took part in the work: A. A. Miskin. 3 diagrams, 3 tables, 1 formula, and 1 photomicrograph.

ASSOCIATION: Moskovskiy vecherniy metallurgicheskiy institut (Moscow Evening Metallurgical Institute)

SUBMITTED: 28 Apr 64

ENCL: 00

SUB CODE: MM

NO REF SOV: 016

OTHER: 002

Card 2/2

L 41012-66 EMT(n)/EMP(k)/T/EMP(t)/ETI IJP(c) JD  
ACC NR: AP6021710 (N) SOURCE CODE: UR/0148/66/000/G03/0167/0170

AUTHOR: Bidulya, P. N.; Saramutin, V. I.; Iskakov, S. S.

ORG: Moscow Evening Metallurgical Institute (Moskovskiy vechernyy metallurgicheskiy institut)

TITLE: Increase in the density and strength of low-alloy steel during crystallization and pressure

SOURCE: IVUZ. Chernaya metallurgiya, no. 3, 1966, 167-170

TOPIC TAGS: high temperature pearlitic steel, steel, pressure casting, metal crystallization, specific density / 15Kh1M1FL pearlitic steel

ABSTRACTS: The article presents the results of an investigation of the properties of pressure-die cast ingots of high-temperature pearlitic 15Kh1M1FL steel ( $\sim 0.16\% \text{ C}$ ,  $\sim 44\% \text{ Si}$ ,  $\sim 0.48\% \text{ Mn}$ ,  $\sim 1.4\% \text{ Cr}$ ,  $\sim 1.2\% \text{ Mo}$ ,  $\sim 0.22\% \text{ V}$ ,  $\sim 0.034\% \text{ S}$ ,  $\sim 0.019\% \text{ P}$ ) crystallizing while in the pressure die, as a function of specific casting pressure  $p_{sp}$  per unit cross sectional area of the ingot ( $4 \text{ to } 20 \text{ kg/mm}^2$ ). The density of this steel, as determined by the method of hydrostatic weighing and checked by the roentgenoscopic method, was found to increase from

UDC: 669.14:621.746.58

Card 1/3



I. 41012-66

ACC NR: AP6021710

7.807 kg/cm<sup>3</sup> for  $p_{sp} = 4 \text{ kg/mm}^2$  to 7.868 kg/cm<sup>3</sup> for  $p_{sp} = 20 \text{ kg/mm}^2$ . Thus, at low pressures, e.g. when  $p_{sp} = 4 \text{ kg/mm}^2$  the steel's density is lower (7.807 kg/cm<sup>3</sup>) than the density of the steel crystallizing while not under pressure (7.824 kg/cm<sup>3</sup>). The reason is that in the case of crystallization without pressure the shrinkage defects are chiefly represented by a concentrated shrinkage cavity, whereas in the presence of a low pressure exerted by the punch against the metal, there forms a strongly developed shrinkage porosity. The cooling conditions of the ingot also affect the density: if the molten steel is poured into a pressure-die that has a temperature of 20°C, the density of the castings is smaller than that of the castings produced with pressure-dies heated to 200-280°C. Clearly, the lower the cooling rate of the casting in the pressure-die is (i.e. the higher the temperature of the pressure-die is), the higher the density of the casting is. For 15Kh1M1FL steel the optimal conditions of pressure-die casting are:  $p_{sp} = 20 \text{ kg/mm}^2$ , pressure-die temperature 200-280°C, and pouring temperature (temperature of pouring into pressure-die) 1540-1560°C; the ingots thus obtained display mechanical properties superior to those of the same steel when cast by ordinary techniques, because such pressure-die casting eliminates shrinkage porosity and gas porosity and provides the premises for the so-called "weldability" of grains, i.e. for a state in which the grain boundaries cease to be the weak link and are not inferior in strength to the grain body itself.

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I. 41012-66

ACC NR: AP6021710

Thus, when subjected to tensile tests at 660°C under a load of 22 kg/mm<sup>3</sup>, specimens of pressure-die-cast 15Kh1M1FL steel withstood fracture for an average of 286 hr compared with 204 hr for specimens of the same steel cast by ordinary techniques. Orig. art. has: 5 figures.

SUB CODE: 11, 20, 13/ SUBM DATE: 07Apr65/ ORIG REF: 008/

Gerd 3/3 hs

USSR/Cultivated Plants. Cereals.

M

Abs Jour: Ref Zhur-Diol., No 17, 1958, 77627.

Author : Isknkov, T.

Inst :

Title : Production of Hybrid Corn Seeds in Kirgizia.

Orig Pub: S. kh. Kirgizii, 1957, No 4, 28-31.

Abstract: No abstract.

Card : 1/1

ISKAKOV, Yeszhan; DOLGOPIYATOV, Yu.A., redaktor; ZLOBIN, M.V., tekhnicheskii  
redaktor

[More than 7 kilograms of fine wool from each sheep] Za 7 kilogram-  
mov tenkoi shersti ot kashloi ovtsy. Alma-Ata, Kazakhskoe gos. izd-  
vo, 1956. 21 p. (MIRA 9:10)

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oblasti (for Isakov)  
(Wool)

ISKAKOVA, K.

"The Biology of Lake and Siberian Frogs in Kazakhstan." Cand Biol Sci,  
Inst of Zoology, Acad Sci Kazakh SSR, Alma-Ata, 1954 (KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher  
Educational Institutions (13) SO: Sum. 59<sup>8</sup>, 29 Jul 55

ISKAKOVA, Kaden; DOLGUSHIN, I.A., doktor biolog.nauk, otv.red.;  
ZHUKOVA, N.D., red.; ROROKINA, Z.P., tekhn.red.

[Amphibia of Kazakhstan] Zemnovidnye Kazakhstana. Alma-Ata,  
Izd-vo Akad.nauk Kazakhskoi SSR, 1959. 92 p. (MIRA 13:1)  
(Kazakhstan--Amphibia)

ISKAKOVA, R.G.

Changes in the renal blood flow in chronic lead poisoning;  
an experimental study. Izv. AN Kazakh. SSR. Ser. med. nauk  
no.2:58-61'63. (MIRA 16:10)  
(LEAD POISONING) KIDNEYS — BLOOD SUPPLY)

ISKAKOVA, R.G.

Change in the filtration and reabsorption function of the kidneys  
in saturnism; an experimental study. Izv. AN Kazakh. SSR Ser.  
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gossypol accumulation. Nauch.trudy TashGU no.263.Khim.nauki  
no.13:109-111 '64. (MIRA 18:8)

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AUTHOR: Iskandarov, T.

ORG: Department of Industrial Hygiene, Tashkent Institute of Medicine (Kafedra gigiyeny truda Tashkentskogo meditsinskogo instituta)

TITLE: Some data on the toxicity of a new drying agent of cotton: arsenic acid

SOURCE: AN UzSSR. Meditsinskiy zhurnal, no. 3, 1965, 22-24

TOPIC TAGS: arsenic compound, rat, mouse, rabbit, experiment animal, central nervous system, organic phosphorus compound, poison effect, toxicology

ABSTRACT: In 1961 technical arsenic acid was found to be a highly effective drying agent of cotton on experimental plots. The compound was studied in rabbits, guinea pigs, white rats, and white mice. It proved to be toxic to all the animals, especially when administered intratracheally. The clinical symptoms included vomiting, diarrhea, paresis, and convulsions. Respiration invariably ceased before cardiac standstill, showing that arsenic acid severely impairs central nervous system function. The poison is cumulative in its effects and thus more dangerous than octamethyl or other organo-phosphorus compounds, which break down in the body fairly quickly. Local

application of 5 and 10% solutions to depilated skin and the mucosa of the eyes resulted in hyperemia, hemorrhages, and other disorders. Parenteral injection of a 10% solution impaired adrenocortical function. Application of this poison for any length of time to cotton fields, besides endangering those human beings handling it, could result in extensive pollution of the soil and bodies of water. The authors strongly disapprove using this arsenic acid in cotton growing. Orig. art. has 1 table. [JRS]

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